In the Specification

Please replace the paragraph at page 3, lines 6-17 with the following amended paragraph:

The subject invention relates to an improved technique for spark-processing Si and the resulting materials. The subject invention also relates to electroluminescent devices incorporating the materials produced by the subject method. The subject technique can enhance the electroluminescent light emission of the resulting spark-processed Si, as compared with conventional spark-processing of Si. The subject invention involves applying, to silicon 14, sparks of sufficiently high voltage 15 to effect the production of spark-processed silicon and introducing into the spark plasma 11, created by the application of sparks to the silicon, a volatile liquid 12 in which particles 18 are suspended and/or a heavy ion salt is dissolved. Examples of the particles which can be suspended in volatile liquids, such as methanol, ethanol, and acetone, include but are not limited to: Si, SiO_2, and/or Si_3N_4 particles. In order to be in suspension for a sufficient amount of time, preferably the particles range in size from about 0.2 μm to about 20 μm.

Please replace the paragraph at page 5, line 1 with the following amended paragraphs:

The subject invention pertains to a method of spark processing silicon and resulting materials. The subject invention also relates to electroluminescent devices incorporating the materials produced by the subject method. The subject method for spark-processing can enhance the EL output, as compared with conventional spark-processed (sp) silicon. The enhancement of EL output can be due, at least in part, to increasing the light emitting area. The subject method can smooth the sp surface, so as to allow more complete coverage of the sp area with a semitransparent, conducting film 4. Such a semitransparent, conducting film can be formed from materials such as, but not limited to, Ag, Au, and Al, as well as other suitable organic, or nonorganic, transparent and conducting film material, such as a conducting organic polymer. Preferably the transparent film is completely transparent, but can be partially transparent.

Please replace the paragraph at page 5, line 13, with the following amended paragraph:

The smoothening of the sp surface can be accomplished by, for example, introducing into the spark plasma 11 a volatile liquid 12, such as methanol, ethanol, and/or acetone, in which particles

18 can be suspended and/or a salt can be dissolved. The particles preferably float in the volatile liquid 12, rather than settle quickly. In a specific embodiment, silicon particles in the range of about 0.2 μm to about 20 μm in size can be suspended in the volatile liquid, such as methanol. In another specific embodiment, SiO_2 and/or Si_3N_4 particles can be suspended in a volatile liquid, with particles in the range of about 0.2 μm to about 20 μm being preferred. The volatile liquid/silicon-particle suspension, such as a methanol/silicon-particle suspension, can first be intimately mixed before introduction into the spark plasma. In a specific example, the suspension can be stirred for about twenty minutes.

Please replace the paragraph at page 5 line 24 with the following amended paragraph:

In another specific embodiment, a salt of a heavy ion can be dissolved in a volatile liquid, such as methanol, ethanol, and/or acetone. Examples of salts which can be utilized for this purpose include, but are not limited to the following: transition metal salts, such as manganese chloride; rare-earth salts; and lanthanide ion salts, such as cerium chloride, terbium chloride, and europium chloride. The suspension or salt solution can then be inserted into a means for applying the suspension and/or salt solution to the surface of a silicon wafer 14 during spark-processing.

Please replace the paragraph at page 6, line 1 with the following amended paragraph:

The sparks can be generated, for example, between a grounded Si wafer 14 and any standard electrode tip, such as a tungsten tip. In a specific embodiment, during spark processing, an anode tip can be separated from a cathode substrate and a high voltage can be applied, causing a spark to be generated between the anode tip and the cathode material. The anode tip can be electrically isolated from the means for introducing the volatile liquid suspension and/or salt solution into the spark plasma, or the anode tip can be in electrical contact with the means for introducing the volatile liquid suspension and/or salt solution. Preferably, the means for introducing the volatile liquid suspension and/or salt solution can also function as an anode. In a specific embodiment, a small-gauge hypodermic syringe, whose metal needle (stainless steel) can serve as an anode, can be used to apply the mixture to the surface of the wafer. A high frequency pulsed voltage 15 can be applied to the needle 13, as shown in Figure 3. Spark processing can then be conducted by simultaneously

applying moderate pressure 16 to the syringe piston while allowing the sparks to develop between anode and cathode.

Please replace the paragraph at page 6, line 15 with the following amended paragraph:

Referring to Figure 8, the tip of a metal needle 13 is depicted before 17 (left) and after 19 (right) modification of the tip. Such modification of the tip can enhance the characteristics of the volatile liquid suspension and/or salt solution exiting the tip. The tip in Figure 8 has been filed so as to flatten the tip and cause pieces of the metal tip 20 to extend into the exit aperture. The pieces extending into the exit aperture can restrict the flow of the volatile liquid exiting the tip. Such restriction of the flow can assist in the production of an aerosol pattern exiting the tip. In a specific embodiment, the needle can also be bent to further restrict the flow through the needle. The needle shown in Figure 8 has a diameter of 0.1 mm. Other size needles can also be utilized.